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EXAMINER	
LOVEL, KIMBERLY M	
ART UNIT	**PAPER NUMBER**
2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/796,249	OWARA ET AL.	
	Examiner	Art Unit	
	KIMBERLY LOVEL	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,12,14-25,29,31-35,37-39,41,42 and 46-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 12, 14-25, 29, 31-35, 37-39, 41, 42 and 46-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This communication is in response to the Amendment filed 23 April 2009.

2. Claims 1-8, 12, 14-25, 29, 31-35, 37-39, 41, 42 and 46-50 are pending in the current application and claims 9-11, 13, 26-28, 30, 36, and 43-45 have been canceled. This action is made Final.

Claim Objections

3. Claims 1, 18 and 39 are objected to because in each of the claims, the newly added limitation recites "serves" instead of "servers." Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. The rejections of **Claims 1-8, 12 and 14-17** under 35 U.S.C. 101 are withdrawn as necessitated by amendment.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 2, 17-19, 34, 35, 38, 39 and 46-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2004/0010487 to Prahlad et al (hereafter Prahlad) in view of US PGPub 2003/0105889 to Shi et al (hereafter Shi).

Referring to claim 1, Prahlad discloses a system for indexing and manipulating a set of backup data stored on a destination system interconnected with a plurality of source file system having source data from which the backup data is transmitted to the destination system (see abstract and [0051]) comprising:

the plurality of source servers connected together to transmit the backup data to the destination storage system (see [0020]);

a management application [snapshot manager] executed by a processor, where the management application (a) communicates with the destination storage system and that accesses data identifiers [identifies the content, identifies the volumes involved …] related to the backup data organized in a tree structure [directory frame which provides a hierarchical arrangement] and representing a plurality of persistent consistency point images (PCPIs) [snapshots] of the data, each with associated information related to creation time [date of creation] (see [0055], lines 10-19; [0061]; [0062]; [0066]; and Fig 6) (b) scans the plurality of PCPIs stored on the destination system to generate an index of directories, files, or qtrees, where each directory, file or qtree has one or more versions created at one or more different points in time (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7), and (c) organizes the data identifiers into a structure that enables the data to be displayed according to directory, file or qtree [indexing generally denotes associating snapshots with information that may be useful in

managing snapshots; for example, browsing enables a user to view available snapshots for a particular volume or application data and information] (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7); and

a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree (see Fig 6; Fig 7; [0058]; lines 1-5; [0060]; [0066]; and [0068]) and to select a source server from the plurality of source servers storing the selected directory, file or qtree (see [0069]).

While Prahlad discloses returning a list, Prahlad fails to explicitly disclose the further limitation of wherein each version of the selected directory, file or qtree is stored in a separate PCPI. Shi et al discloses system restore (see abstract), including the further limitation of a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree, wherein each version of the selected directory, file or qtree is stored in a separate PCPI and at least one version of the selected directory, file or qtree is stored on a second source server (see Figs 6-9 and [0054]-[0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to organize the files, directories and qtrees of Prahlad in the manner disclosed by Shi. One would have been motivated to do so in order improve the efficiency of allowing a user to select a file, directory or qtree to rollback to when an error occurs (Shi: see [0005]).

Referring to claim 2, Prahlad/Shi discloses the system as set forth in claim 1 further comprising a database that stores the data identifiers and rules for handling the data identifiers for retrieval by the user interface and the management application (Prahlad: see [0036], lines 4-7).

Referring to claim 17, Prahlad/Shi discloses the system as set forth in claim 1 further comprising, in the user interface, a screen that enables selected of the source data to be listed as entries and to be transmitted as backup data to the destination storage system at a time separate from a scheduled backup time Prahlad: (see [0049], lines 20-26).

Referring to claim 18, Prahlad discloses a method for indexing and manipulating a set of backup data stored on a destination system interconnected with a source file system having source data from which the backup data is transmitted to the destination system (see abstract and [0051]) comprising:

communicating, by a management client [snapshot manager], with the destination system and accessing data identifiers [identifies the content, identifies the volumes involved …] related to the backup data organized in a tree structure [directory frame which provides a hierarchical arrangement] and representing a plurality of persistent consistency point images (PCPIs) [snapshots] of the data, each with associated information related to creation time [date of creation] (see [0055], lines 10-19; [0061]; [0062]; [0066]; and Fig 6);

scanning the plurality of PCPIs stored on the destination system to generate an index of directories, files, or qtrees, where each directory, file or qtree has one or more

versions created at one or more different points in time (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7);

organizing the data identifiers into a structure that enables the data to be displayed according to directory, file or qtree [indexing generally denotes associating snapshots with information that may be useful in managing snapshots; for example, browsing enables a user to view available snapshots for a particular volume or application data and information] (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7); and

selecting on a user interface a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree (see Fig 6; Fig 7; [0058]; lines 1-5; [0060]; [0066]; and [0068]) and selecting a source server from the plurality of source servers storing the selected directory, file or qtree (see [0069]).

While Prahlad discloses returning a list, Prahlad fails to explicitly disclose the further limitation of wherein each version of the selected directory, file or qtree is stored in a separate PCPI. Shi et al discloses system restore (see abstract), including the further limitation of a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree, wherein each version of the selected directory, file or qtree is stored in a separate PCPI (see Figs 6-9 and [0054]-[0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to organize the files, directories and qtrees of Prahlad in the manner disclosed by Shi. One would have been motivated to do so in order improve the efficiency of allowing a user to select a file, directory or qtree to rollback to when an error occurs (Shi: see [0005]).

Referring to claim 19, Prahlad/Shi discloses the method as set forth in claim 18 further comprising a database that stores the data identifiers and rules for handling the data identifiers for retrieval by the user interface and the management application (Prahlad: see [0036], lines 4-7).

Referring to claim 34, Prahlad/Shi discloses the method as set forth in claim 18 further comprising, in the user interface, a screen that enables selected of the source data to be listed as entries and to be transmitted as backup data to the destination system at a time separate from a scheduled backup time (Prahlad: see [0049], lines 20-26).

Referring to claim 35, Prahlad discloses a method for managing backup of data from a source server to a destination system and restore of backup data, relative to source data, from the source server to the destination system (see [abstract and [0051]) comprising:

communicating, by a management application [snapshot manager], with each of the source server and the destination system and transmitting requests to read a data organization residing on each of the source server and the destination system to derive

an index of directories, files, or qtrees for each of the source server and the destination system (see [0055], lines 10-19; [0061]; [0062]; [0066]; and Fig 6);

scanning the plurality of persistent consistency point images (PCPIs) [snapshots] stored on the destination system to generate an index of directories, files, or qtrees, where each directory, file or qtree has one or more versions created at one or more different points in time (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7);

selecting a directory, file, or qtree to view (see [0060]); and

displaying, with a user interface communicating with the management application, only the selected directory, file, or qtree related to active data on the source server derived from source server index related to active data and the selected directory, file, or qtree related to backup data on the destination system derived from destination system index related to (PCPIs) [snapshots] transmitted from the source data during backup operations (see Fig 6; Fig 7; [0058], lines 1-5; [0060]; [0066] and [0068]).

While Prahlad discloses returning a list, Prahlad fails to explicitly disclose the further limitation of wherein each version of the selected directory, file or qtree is stored in a separate PCPI. Shi et al discloses system restore (see abstract), including the further limitation of a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree, wherein each version of the selected directory, file or qtree is stored in a separate PCPI (see Figs 6-9 and [0054]-[0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to organize the files, directories and qtrees of Prahlad in the manner disclosed by Shi. One would have been motivated to do so in order improve the efficiency of allowing a user to select a file, directory or qtree to rollback to when an error occurs (Shi: see [0005]).

Referring to claim 38, Prahlad discloses the method as set forth in claim 35 further comprising activating user interface buttons associated with entries of the displayed selected information to conduct either of a backup operation and a restore operation with respect to the entries (see Fig 7 and [0069]-[0071]).

Referring to claim 39, Prahlad discloses a system, comprising:

a processor (see [0017]);

a computer-readable medium including program instructions executed on the processor to manage backup of data from a plurality of source servers to a destination system and restore of backup data, relative to source data, from each source server to the destination system (see [abstract and [0051]), the program instructions comprising:

communicating, by a management application [snapshot manager], with each of the source server and the destination system and transmitting requests to read a data organization residing on each of the source server and the destination system to derive an index of directories, files, or qtrees for each of the source server and the destination system (see [0055], lines 10-19; [0061]; [0062]; [0066]; and Fig 6);

scanning the plurality of PCPIs stored on the destination system to generate an index of directories, files, or qtrees, where each directory, file or qtree has one or more

versions created at one or more different points in time (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7);

selecting a directory, file, or qtree to view (see [0060]) and a source server from the plurality of source servers storing the selected directory, file or qtree (see [0069]); and

displaying, with a user interface communicating with the management application, only the selected directory, file, or qtree related to active data on the source system derived from source system index related to active data and the selected directory, file, or qtree related to backup data on the destination system derived from destination system index related to (PCPIs) [snapshots] transmitted from the source data during backup operations (see Fig 6; Fig 7; [0058], lines 1-5; [0060]; [0066] and [0068]).

While Prahlad discloses returning a list, Prahlad fails to explicitly disclose the further limitation of wherein each version of the selected directory, file or qtree is stored in a separate PCPI. Shi et al discloses system restore (see abstract), including the further limitation of a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree, wherein each version of the selected directory, file or qtree is stored in a separate PCPI (see Figs 6-9 and [0054]-[0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to organize the files, directories and qtrees of Prahlad in the manner disclosed

by Shi. One would have been motivated to do so in order improve the efficiency of allowing a user to select a file, directory or qtree to rollback to when an error occurs (Shi: see [0005]).

Referring to claim 46, Prahlad/Shi discloses the system of claim 42, wherein the database stores the plurality of PCPIs and rules for handling the plurality of PCPIs for retrieval by the interface and the management client (Prahlad: see [0036], lines 4-7).

Referring to claim 47, Prahlad/Shi discloses the system of claim 42, wherein the source storage system upon initialization sends a base PCPI and data to the destination storage system (Prahlad: see [0036]).

Referring to claim 48, Prahlad/Shi discloses the system of claim 42, further comprising a scheduler that interfaces with the source storage system and performs backup operations of transmitting backup data including one or more PCPIs and change data from the source storage system to the destination storage system at a predetermined time interval (Prahlad: see [0049]; Fig 6; and Fig 7).

Referring to claim 49, Prahlad discloses a method comprising:

transferring a plurality of persistent consistency point images (PCPIs) [snapshots] from a plurality of source servers (see [0020]) to a destination storage system [the snapshot data is passed to the snapshot manager 503] (see [0055], lines 10-19; [0061]; [0062]; [0066]; and Fig 6);

scanning the plurality of PCPIs to create an index of data structures in a database on the destination system, wherein each data structure is a file, directory, or qtree, and each data structure has one or more versions created at one or more

different points in time and one or more versions stored on separate source servers (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7);

selecting a data structure to view (see [0060]); and

returning an entry for the selected data structure and entries for the one or more versions of the selected data structure to allow a user to select a particular entry to restore (see Fig 6; Fig 7; [0058], lines 1-5; [0060]; [0066] and [0068]).

While Prahlad discloses returning a list, Prahlad fails to explicitly disclose the further limitation of wherein each version of the selected data structure is stored in a separate PCPI. Shi et al discloses system restore (see abstract), including the further limitation of a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected data structure and the one or more versions of the selected data structure, wherein each version of the selected directory, file or qtree is stored in a separate PCPI (see Figs 6-9 and [0054]-[0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to organize the files, directories and qtrees of Prahlad in the manner disclosed by Shi. One would have been motivated to do so in order improve the efficiency of allowing a user to select a file, directory or qtree to rollback to when an error occurs (Shi: see [0005]).

Referring to claim 50, Prahlad discloses a method comprising:

transferring a plurality of persistent consistency point images (PCPIs) [snapshots] from a source storage system to a destination storage system [the snapshot data is

passed to the snapshot manager 503] (see [0055], lines 10-19; [0061]; [0062]; [0066]; and Fig 6);

scanning the plurality of PCPIs to create an index of a file in a database on the destination system, wherein each file has one or more versions created at one or more different points in time (see [0055]; [0058]; [0061]; [0066]; Fig 6; [0067]; and Fig 7); and

selecting a file to view (see [0060]) and a source storage system from a plurality of source storage systems storing the selected file (see [0069]).

While Prahlad discloses returning a list of files, Prahlad fails to explicitly disclose the further limitation of wherein each version of the file is stored in a separate PCPI and displaying the selected file and the plurality versions of the file to allow a user to select a particular file to restore from the selected file and the plurality versions of the file. Shi et al discloses system restore (see abstract), including the further limitation of a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree, wherein each version of the selected directory, file or qtree is stored in a separate PCPI and displaying the selected file and the plurality versions of the file to allow a user to select a particular file to restore from the selected file and the plurality versions of the file (see Figs 6-9 and [0054]-[0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to organize the files, directories and qtrees of Prahlad in the manner disclosed by Shi. One would have been motivated to do so in order improve the efficiency of

allowing a user to select a file, directory or qtree to rollback to when an error occurs (Shi: see [0005]).

7. Claims 3-6, 20-23, 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2004/0010487 to Prahlad et al in view of US PGPub 2003/0105889 to Shi et al (hereafter Shi) as applied respectively to claims 2, 19, 35 and 39 above, and further in view of US Patent No 6,434,681 to Armangau (hereafter Armangau).

Referring to claim 3, Prahlad/Shi discloses communication with the destination storage system, however, Prahlad/Shi fails to explicitly disclose the further limitation of a network data management protocol extension. Armangau discloses indexing snapshots (see abstract), including the further limitation of in the destination storage system, a network data management protocol (NDMP) extension, communicating with a storage operating system of the destination storage system and providing NDMP based communication between the management application and the storage operating system (see column 9, line 46 – column 10, line 21 and column 17, lines 40-52) since NDMP is a standard which facilitates the partitioning of the backup problem between backup software vendors, server vendors, and network-attached storage vendors in such a way as to minimize the amount of host software for backup.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the NDMP extension disclosed by Armangau to provide the communication disclosed by Prahlad/Shi. One would have been motivated to do so since NDMP is a standard, which facilitates the partitioning of the backup problem

between backup software vendors, server vendors, and network-attached storage vendors in such a way as to minimize the amount of host software for backup (Armangau: see column 1, lines 48-62).

Referring to claim 4, the combination of Prahlad/Shi and Armangau (hereafter Prahlad/Shi/Armangau) discloses the system as set forth in claim 3 further comprising a job framework that organizes a plurality of backup operations and restore operations by the management application and that communicates with the user interface so as to enable a user to access information with respect to status of the backup operations and restore operations organized by the job framework (Prahlad: see Fig 6 and 7).

Referring to claim 5, Prahlad/Shi/Armangau discloses the system as set forth in claim 4 further comprising a scheduler that interfaces with the source system and that performs the backup operations, transmitting the backup data from the source system to the destination system at a predetermined time interval (Prahlad: see [0049]; Fig 6; and Fig 7).

Referring to claim 6, Prahlad/Shi/Armangau discloses the system as set forth in claim 5 wherein the user interface includes a screen that enables a user to set a desired lag time after which failure to complete a scheduled backup operation caused an event to occur (Prahlad: see [0049]; Fig 6; and Fig 7).

Referring to claim 20, Prahlad/Shi discloses communication with the destination storage system, however, Prahlad/Shi fails to explicitly disclose the further limitation of a network data management protocol extension. Armangau discloses indexing snapshots (see abstract), including the further limitation of in the destination storage system, a

network data management protocol (NDMP) extension, communicating with a storage operating system of the destination storage system and providing NDMP based communication between the management application and the storage operating system (see column 9, line 46 – column 10, line 21 and column 17, lines 40-52) since NDMP is a standard which facilitates the partitioning of the backup problem between backup software vendors, server vendors, and network-attached storage vendors in such a way as to minimize the amount of host software for backup.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the NDMP extension disclosed by Armangau to provide the communication disclosed by Prahlad/Shi. One would have been motivated to do so since NDMP is a standard, which facilitates the partitioning of the backup problem between backup software vendors, server vendors, and network-attached storage vendors in such a way as to minimize the amount of host software for backup (Armangau: see column 1, lines 48-62).

Referring to claim 21, Prahlad/Shi/Armangau discloses the method as set forth in claim 20 further comprising a job framework that organizes a plurality of backup operations and restore operations by the management application and that communicates with the user interface so as to enable a user to access information with respect to status of the backup operations and restore operations organized by the job framework (Prahlad: see Fig 6 and 7).

Referring to claim 22, Prahlad/Shi/Armangau discloses the method as set forth in claim 21 further comprising a scheduler that interfaces with the source system and

that performs the backup operations, transmitting the backup data from the source system to the destination system at a predetermined time interval (Prahlad: see [0049]; Fig 6; and Fig 7).

Referring to claim 23, Prahlad/Shi/Armangau discloses the method as set forth in claim 22 wherein the user interface includes a screen that enables a user to set a desired lag time after which failure to complete a scheduled backup operation caused an event to occur (Prahlad: see [0049]; Fig 6; and Fig 7).

Referring to claim 37, Prahlad/Shi discloses communication with the destination storage system, however, Prahlad/Shi fails to explicitly disclose the further limitation of a network data management protocol extension. Armangau discloses indexing snapshots (see abstract), including the further limitation wherein the steps of communicating and transmitting include formatting information into a network data management protocol (NDMP) (see column 9, line 46 – column 10, line 21 and column 17, lines 40-52) since NDMP is a standard which facilitates the partitioning of the backup problem between backup software vendors, server vendors, and network-attached storage vendors in such a way as to minimize the amount of host software for backup.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the NDMP extension disclosed by Armangau to provide the communication disclosed by Prahlad/Shi. One would have been motivated to do so since NDMP is a standard, which facilitates the partitioning of the backup problem between backup software vendors, server vendors, and network-attached storage

vendors in such a way as to minimize the amount of host software for backup (Armangau: see column 1, lines 48-62).

Referring to claim 41, Prahlad/Shi discloses communication with the destination storage system, however, Prahlad/Shi fails to explicitly disclose the further limitation of a network data management protocol extension. Armangau discloses indexing snapshots (see abstract), including the further limitation wherein the steps of communicating and transmitting include formatting information into a network data management protocol (NDMP) (see column 9, line 46 – column 10, line 21 and column 17, lines 40-52) since NDMP is a standard which facilitates the partitioning of the backup problem between backup software vendors, server vendors, and network-attached storage vendors in such a way as to minimize the amount of host software for backup.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the NDMP extension disclosed by Armangau to provide the communication disclosed by Prahlad/Shi. One would have been motivated to do so since NDMP is a standard, which facilitates the partitioning of the backup problem between backup software vendors, server vendors, and network-attached storage vendors in such a way as to minimize the amount of host software for backup (Armangau: see column 1, lines 48-62).

8. **Claims 7, 8, 12-16, 24-33 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2004/0010487 to Prahlad et al in view of US PGPub 2003/0105889 to Shi et al (hereafter Shi) as applied respectively to claims 1, 18**

and 42 above, and further in view of US PGPub 2003/0131207 to Arakawa et al (hereafter Arakawa).

Referring to claim 7, while Prahlad/Shi discloses a plurality of organizational formats, Prahlad/Shi fails to explicitly disclose the further limitation wherein the user can select (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides. Arakawa discloses storing snapshot management information (see abstract), including the further limitation of wherein the user can select (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides (see Fig 11; and [0086]-[0088]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the information in the table of Arakawa with the information collected by Prahlad/Shi when indexing the snapshots to display information about the snapshots to the user. One would have been motivated to do so in order to increase efficiency of selecting a snapshot by listing all relevant information.

Referring to claim 8, the combination of Prahlad/Shi and Arakawa (hereafter Prahlad/Shi/Arakawa) discloses the system as set forth in claim 7 wherein each of the entries of each listing includes a browse backups button that enables a user to view backup data stored on the destination system that is associated respectively with each of the entries (Prahlad: see [0066]; Fig 6; and Fig 7).

Referring to claim 12, Prahlad/Shi/Arakawa discloses the system as set forth in claim 11 wherein each of the entries of each listing includes a restore button that enables a user to view restorable backup data structures with respect to each of the entries and to restore the backup data structures to the source data (Prahlad: see [0069] and Fig 7).

Referring to claim 14, Prahlad/Shi/Arakawa discloses the system as set forth in claim 12 wherein each qtree includes qtree relationships with respect to other qtrees within the source system (Prahlad: see [0066], lines 1-9).

Referring to claim 15, Prahlad/Shi/Arakawa discloses the system as set forth in claim 14 wherein the user interface includes a command for destroying a qtree relationship between the source data and a selected volume of the backup data in the destination system (Prahlad: see [0066]; [0055], lines 17-19; [0069] and Fig 7).

Referring to claim 16, Prahlad/Shi/Arakawa discloses the system as set forth in claim 15 wherein the management application is adapted to delete a respective qtree associated with the qtree relationship on the destination system in response to activation of the command for destroying (Prahlad: see [0066]; [0055], lines 17-19; [0069] and Fig 7).

Referring to claim 24, while Prahlad/Shi discloses a plurality of organizational formats, Prahlad/Shi fails to explicitly disclose the further limitation of selecting (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides. Arakawa discloses storing snapshot

management information (see abstract), including the further limitation of selecting (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides (see Fig 11; and [0086]-[0088]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the information in the table of Arakawa with the information collected by Prahlad/Shi when indexing the snapshots to display information about the snapshots to the user. On would have been motivated to do so in order to increase efficiency of selecting a snapshot by listing all relevant information.

Referring to claim 25, Prahlad/Shi/Arakawa discloses the method as set forth in claim 24 wherein each of the entries of each listing includes a browse backups button that enables a user to view backup data stored on the destination system that is associated respectively with each of the entries (Prahlad: see [0066]; Fig 6; and Fig 7).

Referring to claim 29, Prahlad/Shi/Arakawa discloses the method as set forth in claim 24 wherein each of the entries of each listing includes a restore button that enables a user to view restorable backup data structures with respect to each of the entries and to restore the backup data structures to the source data (Prahlad: see [0069] and Fig 7).

Referring to claim 31, Prahlad/Shi/Arakawa discloses the method as set forth in claim 29 wherein each qtree includes qtree relationships with respect to other qtrees within the source system (Prahlad: see [0066], lines 1-9).

Referring to claim 32, Prahlad/Shi/Arakawa discloses the method as set forth in claim 31 wherein the user interface includes a command for destroying a qtree relationship between the source data and a selected volume of the backup data in the destination system (Prahlad: see [0066]; [0055], lines 17-19; [0069] and Fig 7).

Referring to claim 33, Prahlad/Shi/Arakawa discloses the method as set forth in claim 32 wherein the management application is adapted to delete a respective qtree associated with the qtree relationship on the destination system in response to activation of the command for destroying (Prahlad: see [0066]; [0055], lines 17-19; [0069] and Fig 7).

Referring to claim 42, Prahlad discloses a system, comprising:

a source storage system configured to generate a plurality of persistent consistency point images (PCPIs), and transfers the plurality of PCPIs and data to a destination storage system (see [0051]; [0055]; [0061]; and [0066]);

the destination storage system executes a management client, where the management client organizes the plurality of PCPIs and the data into an index using a database to allow the plurality of PCPIs and the data to be displayed in (a) a listing of source data entries indexed by names of the directories, files or qtrees of the source storage system, where each directory, file, or qtree and the one or more versions created at one or more different points in time [date of creation] (see [0055], lines 10-19; [0058]; [0061]; [0062]; [0066]; [0067]; and Fig 6); and

an interface to select a data entry for a directory, file, or qtree to view, and the management application returns a list of only the selected directory, file, or qtree and

the one or more versions of the selected directory, file or qtree (see Fig 6; Fig 7; [0058]; lines 1-5; [0060]; [0066]; and [0068]).

While Prahlad discloses returning a list, Prahlad fails to explicitly disclose the further limitation of wherein each version of the selected directory, file or qtree is stored in a separate PCPI. Shi et al discloses system restore (see abstract), including the further limitation of a user interface to select a directory, file, or qtree to view, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file or qtree, wherein each version of the selected directory, file or qtree is stored in a separate PCPI (see Figs 6-9 and [0054]-[0056]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to organize the files, directories and qtrees of Prahlad in the manner disclosed by Shi. One would have been motivated to do so in order improve the efficiency of allowing a user to select a file, directory or qtree to rollback to when an error occurs (Shi: see [0005]).

While Prahlad/Shi discloses a plurality of organizational formats, Prahlad/Shi fails to explicitly disclose the further limitation wherein the desired organizational format includes at least each of (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides. Arakawa discloses storing snapshot management information (see abstract), including the further limitation of wherein the desired organizational format includes at least each

of (a) a listing of source data entries indexed by names of the source system and (b) a listing of source data entries indexed by names of volumes of the destination system in which the backup data from the source data resides (see Fig 11; and [0086]-[0088]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the information in the table of Arakawa with the information collected by Prahlad/Shi when indexing the snapshots to display information about the snapshots to the user. On would have been motivated to do so in order to increase efficiency of selecting a snapshot by listing all relevant information.

Response to Arguments

9. Applicant's arguments filed in regards to the prior art have been fully considered but they are not persuasive.

10. The newly amended claim limitations are taught for the reasons pointed out above in the rejection.

11. Referring to Applicant's arguments on pages 14 and 16 of the Remarks, the Applicant argues that the user can select a particular qtree, file or directory to view and Prahlad fails to disclose this limitation.

The examiner respectfully disagrees. The snapshot of Prahlad is considered to represent a file. The claims limitation states that the user can select to view a file, directory or qtree. The limitation fails to state that the user can view a list of all three at the same time to select from. Therefore, allowing a user to select a snapshot is considered to meet the requirements of the claimed limitation.

12. The rejections of the dependent claims are maintained for the reasons stated above.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIMBERLY LOVEL whose telephone number is (571)272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John R. Cottingham/
Supervisory Patent Examiner, Art Unit 2167

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6 July 2009
/KL/